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THE LOOP:

A PLAN FOR THE FUTURE OF ROGERS

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Abstract:

Storm water management in urban areas is not only a necessary infrastructure, it is also a valuable resource to provide an aesthetic experience for the public while furthering ecological awareness, recreation, and the cultural fabric. Through the restructuring of current development ordinances and through greater attention to the true needs of the natural and built communities, storm water management becomes the tool to breach the gap between man and nature.

Rogers, Arkansas, a city of exciting and alarming growth, maintains traditional planning and environmental practices that have created a center of disequilibrium among the natural and built systems. Local streams and their surrounding environment have received the worst of this imbalance as flooding, severe stream-channel erosion, loss of wetland habitat, and riparian ecosystems have become dominating characteristics. Differing principles and goals of Rogers' major municipalities and special interest groups are the catalysts for the overall degradation of the natural systems. As the stream corridors continue to decline, the actual tools needed to stop this decline remain in great debate, varying from engineering tactics to a closed-door, political approach. The greatest challenge to the stream corridors continue to decline, the actual tools needed to stop this decline remain in great debate, varying from engineering tactics to a closed-door, political approach. The greatest challenge to the city of Rogers and to the overall health of the environment, lies in synthesizing the needs, principles, and practices of each group into a harmonious whole. The object of this amalgamation is not only to solve stream quality issues, but also to allow the city to capitalize on the potential benefits of its stream corridors.

The Loop is a multi-objective recreation and urban design project that illustrates the potential of using stream corridor restoration as a springboard into several other realms of city planning and urban design. However, in order to achieve a successful project, extensive studies in civil engineering, local historic and cultural patterns, and land management theories were necessary. A tri-fold, tri-part harmony, The Loop executes an integration of these design principles in the fields of ecology, recreation, and urban design. Using the stream corridors, city easements, cultural and social connectors, and the apparent new development, The Loop serves as medium by which to solve ecological problems, to provide extensive recreation opportunities, and to create a cohesive urban fabric.

The Loop also serves to provide alternatives to typical development practices. By incorporating a task force composed of local elected officials, local land planners, engineers, special-interest groups, and community members, all provisions work together to create positive multiple, mutually reinforcing, long-term benefits, while satisfying the needs of each group.

Future development will be governed by these principles and will benefit and strengthen the ecological and social framework of the city. The Loop, through these provisions, strives to establish a balanced system that improves the surrounding environment and provides an ecologically sound, esthetically pleasing experience.

The Loop, a development plan for the future of Rogers, Arkansas, is the catalyst to form a model city in the heart of Northwest Arkansas. By brandishing new techniques that not only improve the quality of life but also guarantee the continuum and health of the natural systems, Rogers establishes itself as a city and a community with a common vision and a brighter future.

The Loop:

The Loop was originally intended to address the growing concerns of ecological and flood water problems caused by rapid development in the city of Rogers, Arkansas. A community growing at the rate of 64% per decade, Rogers' need for expansion and new development has exceeded many of the natural limits and carrying capacities of the surrounding environment. The Loop, using tecbnologically innovative methods, was to provide means of absorbing nutrient loads in water, solve flood control issues, and create guidelines for future development regarding urban watershed infrastructure. However, what was born as a very scientific and technical project, evolved into a social, cultural, and physical study of the city of Rogers, Arkansas.

The waterways of Rogers—eroded, hidden underground, and contaminated with oils, sediments, and hard metals from urban storm water runoff—were the creators of possibility. Three streams and their tributaries create a loop around the City of Rogers, acting very much as a part of the man-made infrastructure that collects, deposits, and disposes of city water. A vital component of this system are the sewer lines that follow along all three of the streams. To protect these sewer lines, easements of fifty feet width on alternating sides of the stream corridors are provided as "no-build" sites, thus are left as open, unused space. These easements provide the city with a man-made green belt. In combination with the natural stream corridors, this green belt—seen as wasted space to the developer and passerby—provided the framework for the evolution of The Loop. The Loop had become the medium in which to address ecological problems, as well as to create a broad-sweeping cultural, social, and recreational connector for the community of Rogers.

A task force composed of city planners, ecological and hydrological engineers, citizens of Rogers, and special interest groups created the third and final component in the evolution of The Loop. Principles and goals established by each of these groups were studied and combined in order to evaluate the needs ofthe city. Rogers' location within the growing metroplex of Northwest Arkansas embellished the need to create an identity and to address development. Rather than allowing the city to continue its untended growth, the city needed a strategy to maintain its urban integrity as well as its natural beauty. The Loop, as a connector, established the means by which these problems could be solved. A synthesis of these individual goals became the platform for how The Loop should be approached.

Goal

The evolution of The Loop, as well as an agglomeration of needs, expanded the goals of The Loop from an ecological study to an overall master plan for the city of Rogers. This master plan will result in a realistic strategy for the city to capitalize on its problems and to tranform them into potentials. The master plan will act as a seed project that will emphasize the potential of Rogers. The goal became a product that complements the ecology, provides additional recreation for a growing connnunity, connects cultural and social areas of significance, and establishes design principles and guidelines for future development. Through the application of these attributes, The Loop will produce a discrete, personalized identity for Rogers while providing example developments at a variety of levels.

Concept

The concept of The Loop is influenced by a study of the built and natural environments of Rogers. These two intrinsic traits, the former a regimented grid, the latter a free-flowing vernacular, intermingle to form the fabric ofthe city. Unfortunately, the regimented grid has dominated the landscape, rather than meshing equally with the vernacular. The concept of The Loop focuses on allowing the natural vernacular to supersede the imposing built grid, emphasizing the natural elements as placemakers, place holders, and as directional tools. The physical aspect of The Loop is the ultimate framework and infrastructure by which this reversal would occur. Pulling The Loop and the natural vernacular to the forefront in design decisions re-establishes an equilibrium in the interaction between man and nature.

Program Development

Upon beginning the design process, a thorough inventory and analysis was conducted of the city of Rogers. Just as the concept dealt with natural and built elements, the inventory and analysis also focused on the natural and cultural elements ofthe city. The knowledge gained from day to day site visits, extensive studies in civil engineering, land management theories, and local historic cultural patterns, was vital to a true understanding of the complex systems of Rogers. These results, teamed with

information gathered from the task force, worked to create a list of long-term goals for The Loop. These program goals use storm water managment as the tool to bridge the gap between the natural and cultural elements of Rogers. The Loop also employs the tri-fold roles of ecology, recreation, and urban design to meet these goals. Through this phase, the concept was applied to smaller, site specific areas, where development to achieve the goals would eventually occur.

Identity nodes became the focus of this phase. As a connector, The Loop established major points of intersection and activity along its path. Contextual studies of these nodes, and their functional and physical relationships within the framework, provided applicable and realistic responses to the program goals. It was determined that in order to be successful, The Loop, as a framework must:

Integrate the surrounding neighborhoods and business districts.

Provide alternatives to typical development practices.

Create alternate routes of transportation in the form of biking and hiking paths as well as pedestrian access.

Unify the city with common visual and physical elements.

Solve water quality and control issues in aesthetically pleasing and exciting ways.

Create a common vision for the city of Rogers.

The contextual sections were applied to the individual nodes and developed into several master plans. Later, the alternate designs were rated in their ability to answer the program goals. Using techniques and ideas from each of the design alternatives, the master plan was composed as a synthesis of earlier phases

Master Plan

The master plan achieves a synthesis of design elements that were discovered through the design process. Using The Loop as a framework for a multi-objective recreation and urban design project, the master plan combines the needed design elements and natural and social conditions to reestablish an equilibrium between man and nature. This equilibrium was achieved at many, varied levels to ensure tbat, like nature, The Loop is a system that relies on its most intricate relationships.

The master plan resulted in the creation of a twenty-three mile recreation trail along the stream corridors in Rogers. Using the trail as the primary foundation, the master plan is able to address ecological solutions and examples of future development in exciting and aesthetically pleasing ways. All of these elements were intertwined into a single rythmic system, supporting each other and evolving together. As the needs of one element changed, the entire system changed to accommodate that change.

Ecologically, the master plan provided an additional 8 million cubic feet for water storage during flood periods. These water storage mechanisms also incorporated plantings that absorbed excess nutrients, hard metals, and sediments, while aiding in the slowing of the current within the stream. However, these technical attributes were achieved in a manner that allowed dual uses for the structures--as interactive areas for learning, informal recreation and wetland habitat.

In addition to the twenty-three miles of multi-purpose trails, The Loop provided expanded and more numerous parks and open spaces, and connected the city's schools, neighborhoods, and shopping centers. The program goals were met as Rogers' community and urban fabric were unified through the addition of bike trails, pedestrian walkways along busy streets, and street trees and street furnishings.

Perhaps most beneficial for the future of Rogers was the development of identity nodes. Addressing the growth of Rogers, and the need to continue development for the economy, these nodes provide alternative development opportunities that place the environment at the forefront. Design guidelines, such as building outside the flood way and floodplains—mechanisms that allow water to be captured and used on site—and permeable building materials, were combined with the basics of urban design to create more environmentally friendly, cost-efficient, and attractive new developments. These nodes also encouraged new development to occur in already developed areas, re-focusing growth inward, rather than allowing continued sprawl. By using land more densely, the needed infrastructure can be created within the built environment. This type of land management allows for the maintenance of undeveloped green-strips between cities, allowing separate identities to be maintained. Identity is strengthened as identity nodes are created in a manner that capitalizes on the area's existing characteristics, such as ethnic neighborhoods, or proximity to schools.

The success of The Loop is based not only on its ability to rectify water quality problems and ecological issues, but also by its ability to expand the thoughts of the citizens about their community. More than anything, The Loop, is a "seed project," that enables citizens to see the potential of their growing community. At a time when development and future growth are the focus, The Loop provides a look back at the most intrinsic and important aspects of community: the environment it which it is placed and the wants and desires of the people that compose it. The Loop is the framework to unite these two elements in an harmonious balance. The Loop is the catalyst to form Rogers, Arkansas into a model city—a model community with a common vision—in the heart of Northwest Arkansas.

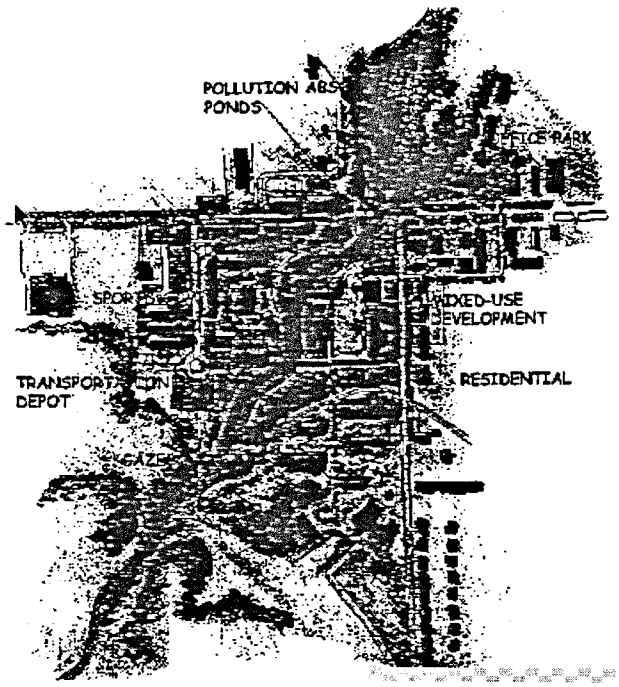


Figure 1. Walnut Intersection

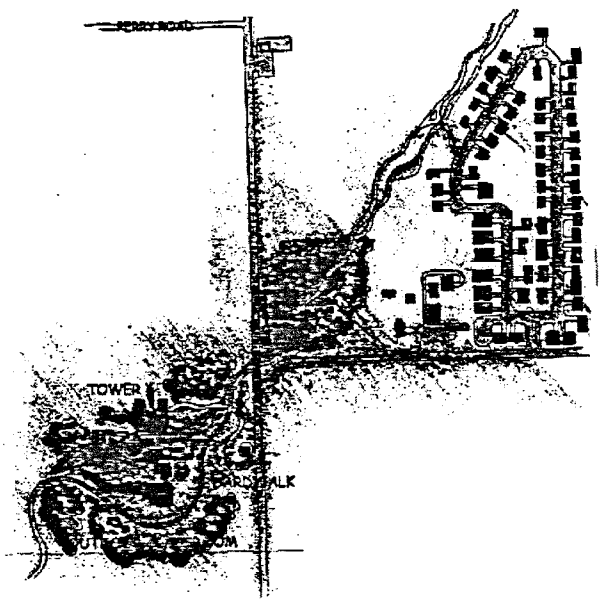


Figure 2. Rogers High School Wetland Education Center

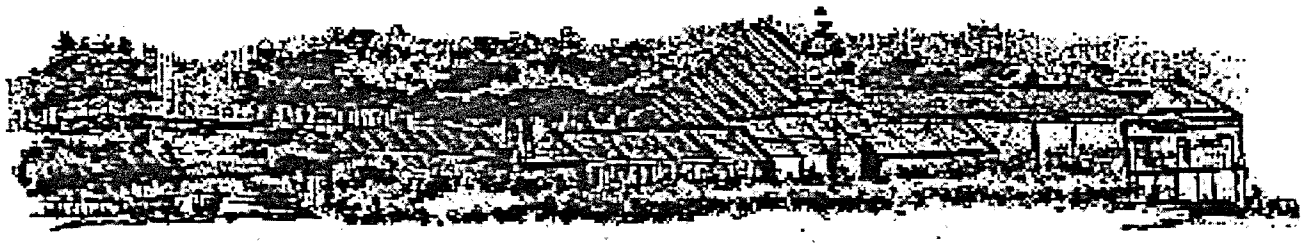


Figure 3. Wetland research Center

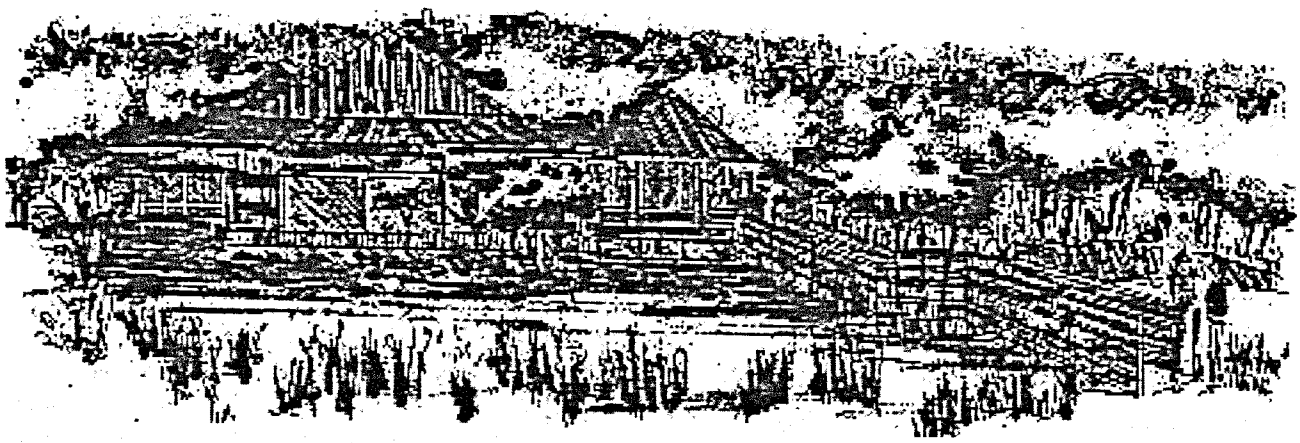
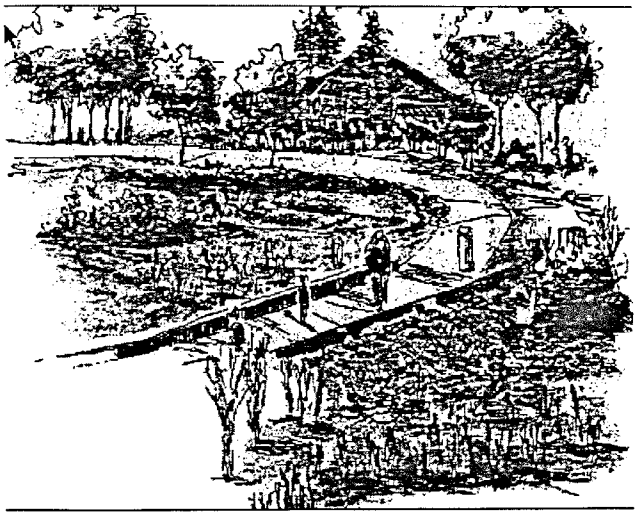
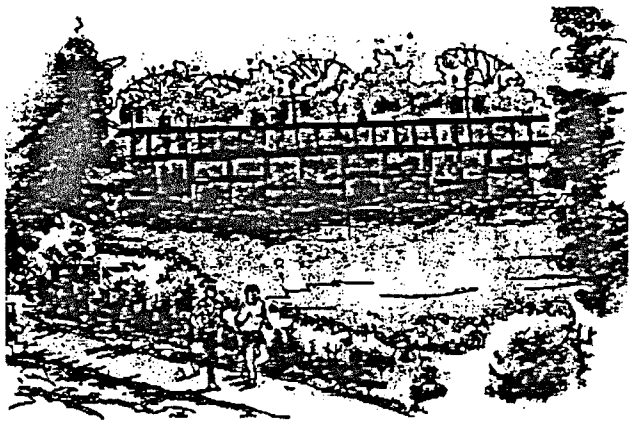


Figure 4. Wetland Lab





Figures 5 and 6. Boardwalk Views

Figure 7. Pollution Absorption Pond

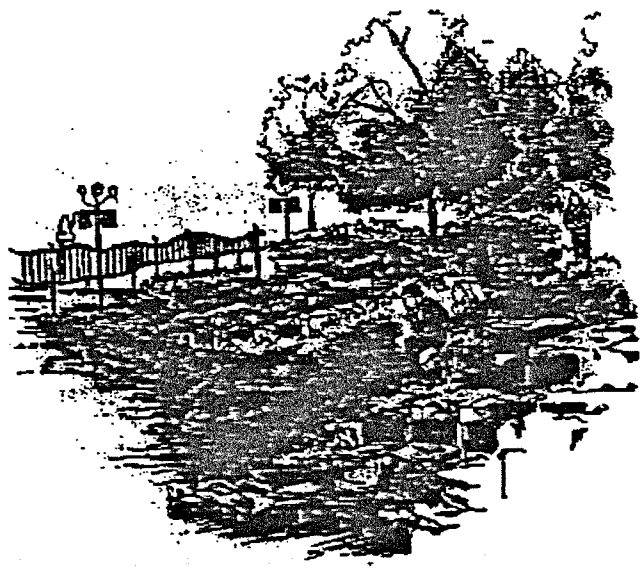


Figure 8. Water Access

Faculty Comments:

Mark Boyer, one of Ms. Turner's Studio Professors, commented as follows:

> As one of Rebecca's advisors on this project I am completely familiar with the breadth and depth to which she worked. As a result of her desire to do more than required, the citizens of Rogers will benefit, even if only a small portion of her design ideas come to fruition. Not only will there be a nice greenway for pedestrian use (typical of community quality-of-life work being done across the country by professional landscape architects) but some of the existing hazardous flooding conditions could be rectified in the process. Rebecca chose to look at those problem flooding areas and try to ascertain some of the causal mechanisms. She went on to incorporate into the design of the public greenway features which would help mitigate those elements. This type of work is no easy task given the political and social framework within which she was working. However, as a true scholar and collaborator, Rebecca contacted experts in varying fields which could provide key information to a successful solution and surveyed residents of the area for their input and ideas. The ready acceptance by the City of Rogers council members and department heads of Rebecca's plan is a testimony to the soundness of her approach and potential success of her design when it is implemented. Rebecca's work is truly high quality to which all students could aspire

Karen Rollet-Crocker, Landscape Architecture Associate Professor and teacher of the first year studio made these remarks about her teaching assistant:

> Rebecca Turner's project was very comprehensive and well researched. We ask our students to develop their project independently, and she is exceptionally

capable in this respect. She has just competed for a national American Society of Landscape Architecture Honor award by presenting this project to a professional jury. Although the formal decision has not been made public, the jury was particularly impressed with the quality of her work.

Becca is one of the few students I have known who asks for opportunities, rather than waiting until opportunities come along. One example is her current teaching position in our first year landscape architecture studio. Her positive attitude, comments on student work, and time spent helping the students create designs was outstanding. One of her best traits as a teacher is the ability to encourage students to do good work. I could not have asked for a better example to put in front of new students. She has considered getting an advanced degree in landscape architecture in order to teach; I hope she will do so.

Becca has had outstanding references from her summer internships at one of the top firms in the country, HOK of St. Louis. I expect that her career in landscape architecture will be a stellar one, not only because of her skills as proved by her academic work, but because of her concern for people, her leadership qualities, and her drive.

Professional Landscape Architect **Travis Brooks**, who served on Ms. Turner's final project jury said:

The Loop - A Plan for the Future of Rogers Arkansas, prepared by Rebecca Turner, represents a thorough analysis of Rogers Arkansas, its infrastructure, and its potential. I have never seen a more complete project produced by an undergraduate student in the landscape architecture department.

As Rebecca began to research the water patterns in Rogers, she discovered other land use possibilities that could be addressed in her design. After extensive research she realized that her goal of developing an efficient water shed for the city could also provide for the development of needed recreation areas. Instead of ignoring these additional design problems, she welcomed them. The is an excellent example of the importance of landscape architecture in our society. The Loop represents a scientific approach to water sheds and an artistic approach to the development of recreation areas.

Rebecca welcomes all her work with a similar ambivalence to potential enormity. It is always a joy to see her finished projects and realize that she has addressed all of the design issues regardless of their significance or size. Rebecca's fearlessness and ability to tackle abnormally complex ideas are her greatest assets as a future landscape architect.